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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,861	11/26/2002	Carlo Waldfried	ATI-0016	3384
23413	7590	05/24/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			MARKOFF, ALEXANDER	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/065,861

Applicant(s)

WALDFRIED ET AL.

Examiner

Alexander Markoff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 7-13, 16 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (US Patent No 6,319,809).

Chang et al teach a method as claimed. See entire document, especially column 1, lines 38-45, column 5, lines 28-50, column 6, line 23 – column 7, line 7.

3. Claims 1-5 and 7-20 rejected under 35 U.S.C. 102(b) as being anticipated by Sharangpani et al (US Patent No 6,3030,524).

Sharangpani et al teach a method as claimed. See entire document, especially column 4, lines 21-31, column 5, lines 35-58, column 6, lines 5-10, and column 7, line 43 – column 10, line 21.

4. Claims 1, 2, 5-8 and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Chung (US Patents 6,452,275 and 6,559,045).

Chung teaches a method as claimed. See entire document, especially column 6, line 35 – column 10, line 28.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharangpani et al.

Sharangpani et al teach the claimed method except for recitation of the specifically claimed energy range.

However, energy level of the application of the radiation treatment is a result effective variable. It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum level of the UV radiation in the method of Sharangpani et al by routine experimentation in order to enhance the process.

9. Claims 6, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al.

Chang et al teach the claimed method except for recitation of the specifically claimed energy range and the treatment time.

However, energy level of the application of the radiation treatment and the treatment time are result effective variables. It would have been obvious to an ordinary artisan at the time the invention was made to find an optimum level of the UV radiation and optimum treatment time in the method of Chang et al by routine experimentation in order to enhance the process.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicants amended the claim to recite "and/or". The claim as amended uses an alternative language, which is not proper.

***Response to Arguments***

12. Applicant's arguments filed 3/14/05 have been fully considered but they are not persuasive.

With respect to the rejections made over Chang et al the applicants argue that the document does not teach removing of all air from the chamber prior to UV exposure. The applicants also argue that they use an inert ambient environment during exposure to ensure that no oxygen or water vapor is presented during exposure.

The applicant's arguments are more specific than the claims. The pending claims are not limited to removing all air from the chamber and making the chamber air free. The claims are not limited to removing air from the chamber prior to exposure. The claims are not limited to conducting the exposure in an environment free from oxygen and water vapor. Thereby the teaching of Chang et al regarding conducting the step in nitrogen environment meets the claimed limitations.

Moreover the applicant's arguments raise a question whether the claims are complete or they are missing an essential limitation of the inventive method requiring conducting the exposure in an environment free from oxygen and water vapor.

With respect to the rejections made over Sharangpani et al the applicants argue that the document does not teach application of the radiation comprising radiation with wavelength 150-500 nm. This is not persuasive because the document teaches application of such radiation. It is noted that the claims do not require the radiation be

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only in this range. The claims merely require the radiation to comprise such wavelength. The document teaches application of such radiation. See the parts cited in the rejection. Moreover, the document specifically teaches application of 180-400 nm, which is inside of the claimed range. See at least column 9, line 65 – column 10, line 21.

The applicants also argue that Sharangapi et al do not teach drying process for removing contaminants. This is not persuasive because the document teaches all the manipulative steps recited by the claims and thereby anticipates the claimed method.

With respect to the rejections made over Chung et al the applicants argue that the document teaches application of UV light to increase molecular weight of the dielectric film. The applicants are state that the claims exclude degradation of dielectric film. The applicants further argue that UV in Chung et al would cause the degradation of dielectric film by increasing molecular weight.

This is not persuasive.

It is not clear why the applicants consider increasing of the molecular weight as degradation. It appears that in opposite to the applicant's statement the process improves, not degrade the film.

However, even taking the applicants position regarding the "degradation" the presented argument is not persuasive because the claims do not require the radiation not to cause the degradation. This limitation is recited only to the step of heat, vacuum or plasma.

Further in contrast to the applicant's arguments there are no requirements in claims for step of exposure to dry or remove contaminants.

It is again noted that the applicant's arguments are more specific than the claims.

The rejections are maintained.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

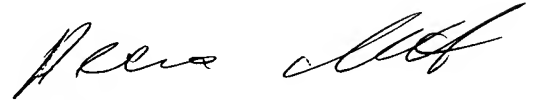
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 571-272-1304. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexander Markoff  
Primary Examiner  
Art Unit 1746

AM

**ALEXANDER MARKOFF**  
PI EXAMINER